Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a computer system, a computer-implemented method for modeling cost, useful in association with at least one merchandise store and an optimization engine coupled to the computer system via a network, wherein the at least one merchandise store includes at least one of a brick-and-mortar store, an online store, and a catalog store, the computer-implemented method comprising:

receiving sales data, using the computer system, from the at least one merchandise store via the network;

~~cleaning~~ cleansing the sales data, using the computer system;

generating imputed variables, using the computer system, ~~wherein said imputed variables are generated~~ by imputing at least one missing data point ~~when the at least one data point is missing~~;

receiving cost data, using the computer system, from the at least one merchandise store via the network;

estimating cost per unit of product, using the computer system, from the sales data, the imputed variables and the cost data; and

outputting the estimated cost per unit of product, using the computer system, to the optimization engine via the network.

2. (Currently Amended) The computer-implemented method, as recited in claim 1, wherein the determining the cost per unit of product comprises estimating inventory space in the

merchandise store used by the product, which is estimated from sales data indicating volume of sales of the product and cost data indicating the frequency of product delivery.

3. (Currently Amended) An apparatus for modeling costs, useful in association with and useful in association with an optimization engine at least one merchandise store coupled to the apparatus via a network, wherein the at least one merchandise store includes at least one of a brick-and-mortar store, an online store, and a catalog store, and wherein the optimization engine is configured to receive input from the apparatus, and wherein the optimization engine is further configured to generate a preferred set of prices, the apparatus comprising:

an econometric engine for receiving sales data from at least one merchandise store via the network, cleansing the sales data and generating imputed variables~~, wherein said imputed variables are generated~~ by imputing at least one missing data point ~~when the at least one data point is missing~~; and

a financial engine for receiving imputed variables from the econometric engine, receiving cost data from at least one merchandise store via the network, generating a cost model, and outputting the cost model to the optimization engine.

4. (Currently amended) The apparatus, as recited in claim 3, wherein the financial engine estimates inventory space in the at least one merchandise store used by a product from the sales data and delivery data.

5. (Previously Presented) The computer-implemented method, as recited in claim 1, wherein the imputed variables include at least one of a seasonality variable, a promotional variable and a cross-elasticity variable.

6. (Previously Presented) The apparatus, as recited in claim 3, wherein the imputed variables include at least one of a seasonality variable, a promotional variable and a cross-elasticity variable.

7. (Previously Presented) The computer-implemented method, as recited in claim 5, wherein said estimating cost per unit of product step includes estimating fixed costs and estimating variable costs, further wherein said variables costs are a function of the amount of sales of said product and said fixed costs are not a function of the amount of sales of said product.

8. (Currently Amended) The computer-implemented method, as recited in claim 7, wherein said estimating cost are estimated for each of the at least one merchandise store.

9. (Currently Amended) The computer-implemented method, as recited in claim 8, wherein said estimated cost per unit of product is determined as a cost for said product in said each of the at least one merchandise store for a selected demand group in a selected time period, further wherein said demand group is a group of highly substitutable products.

10. (Currently Amended) The computer-implemented method, as recited in claim 9, wherein said estimated cost per unit of product in said merchandise store is determined as the sum of a bag cost, a location inventory cost, a checkout labor cost, a location receiving cost, a transportation cost, a distribution center inventory cost, a distribution center labor cost, an invoice processing cost, a location space cost, and a distribution center space cost.

11. (Previously Presented) The apparatus, as recited in claim 6, wherein said cost model includes fixed costs and variable costs, further wherein said variable costs are a function of the amount of sales of said product and said fixed costs are not a function of the amount of sales of said product.

12. (Currently Amended) The apparatus, as recited in claim 11, wherein said cost model models costs for each of the at least one merchandise store.

13. (Currently Amended) The apparatus, as recited in claim 12, wherein said cost model models costs for individual products in said each of the at least one merchandise store for a selected demand group in a selected time period, further wherein said demand group is a group of highly substitutable products.

14. (Previously Presented) The apparatus, as recited in claim 13, wherein said cost model models costs as the sum of a bag cost, a location inventory cost, a checkout labor cost, a location receiving cost, a transportation cost, a distribution center inventory cost, a distribution center labor cost, an invoice processing cost, a location space cost, and a distribution center space cost.

15. (Previously Presented) The apparatus, as recited in claim 13, wherein the econometric engine is coupled to a coefficient estimator, wherein the coefficient estimator generates a combined product sales model, a share model and a sales model.

16. (Previously Presented) The apparatus, as recited in claim 15, wherein the coefficient estimator outputs the combined product sales model to the optimization engine, and wherein the optimization engine generates optimized pricing for the products from the combined product sales model and cost model.

17. (Currently Amended) The apparatus, as recited in claim 15, wherein the coefficient estimator receives imputed variables from the econometric engine and sales data from the at least one merchandise store.

18. (Currently Amended) The apparatus, as recited in claim 17, wherein the combined product sales model is given by:

$$\hat{D}_{i,k,t} = \hat{F}_{i,k,t}\hat{S}_{i,t}$$

~~wherein,~~ where,

k = a product

i = a primary demand group

t = a time period

$D_{i,k,t}$ = a demand for product k in demand group i in time period t

$F_{i,k,t}$ = a fraction of the demand group i equivalent sales comprised by the product k in the time period t

$S_{i,t}$ = an equivalent sales of the demand group i in the period t.

19. (Currently Amended) The apparatus, as recited in claim 17, wherein the sales model is given by:

$$\left(\frac{\hat{S}_{i,t}}{S_{Bi,t}}\right) = \exp\left(\begin{array}{l} \hat{K}_i + \hat{\gamma}_i \frac{P_{i,t}}{\overline{P}_{i,t}} + \hat{\nu}_i M_{i,t} + \hat{\psi}_i X_{i,t} + \hat{\kappa}_i X_{i,t} \frac{P_{i,t}}{\overline{P}_{i,t}} + \sum_{n=1}^{\tau} \hat{\delta}_{i,n} \frac{\sum_{r=t-mn}^{t-m(n-1)-1} S_{i,r}}{\sum_{r=t-mn}^{t-m(n-1)-1} \overline{S}_{i,r}} + \sum_{j \neq i} \hat{\phi}_{i,j} \frac{\hat{S}_{j,t}}{\overline{S}_{j,t}} \\ + \hat{\eta}_{i,t}\left(\frac{\overline{P}_{i,t} - \overline{\overline{P}}_{i,t}}{\overline{\overline{P}}_{i,t}}\right) + \hat{\pi}_i \frac{TS_t}{T\overline{S}_t} + \hat{\theta}_i \frac{S_{i,t-7}}{\overline{S}_{i,t-7}} + \frac{\hat{\sigma}^2}{2} \end{array}\right)$$

~~wherein,~~ where,

k = the product

i = the primary demand group

j = a secondary demand group

t = the time period

B = a baseline state of product

$S_{i,t}$ = the equivalent sales of the demand group i in the period t

$S_{Bi,t}$ = an equivalent baseline sales of the demand group i in the period t

TS_t = total sales for the merchandise store in the period t

$T\overline{S}_t$ = total sales for a region in the period t

$P_{i,t}$ = an equivalent price of the demand group i in the time period t

$\overline{P}_{i,t}$ = an average equivalent price of the demand group i for the time period t

$\overline{\overline{P}}_{i,t}$ = an average competitor equivalent price of the demand group i for the time period t

$M_{i,t}$ = a promotion level for the demand group i in the time period t

$X_{i,t}$ = a seasonality index for the demand group i in the time period t

γ_i = a price elasticity factor for the demand group i

ν_i = a promotion factor for the demand group i

ψ_i = a seasonality factor for the demand group i

κ_i = a seasonality-price interaction factor that measures the interaction of weighted average price deviations and seasonality for the demand group i

n = a number of time periods away from the time period t

$\delta_{i,n}$ = a time lag factor for the demand group i and the delay of n weeks

$\phi_{i,j}$ = a cross elasticity factor for the demand group i and the demand group j

$\eta_{i,l}$ = a competitive price factor for the demand group i measured with respect to the difference between the weighted average price of the demand group within the merchandise store and outside competitors

π_i = a traffic factor for the demand group i

θ_i = a day-of-week effect for the demand group i

$\hat{\sigma}^2$ = a mean square error of the sales model divided by 2

K_i = a constant associated with the demand group i

20. (Currently Amended) The apparatus, as recited in claim 17, wherein the share model is given by:

$$\hat{F}_{i,k,t} = \frac{\exp\left\{\hat{\Lambda}_{i,k} + \hat{\rho}_{i,k}\left(P_{Ri,k,t}\right) + \sum_{p=1}^{n_p}\hat{\sigma}_{p,i,k}\left(M_{p,i,k,t}\right) + \sum_{n=1}^{\tau}\hat{\chi}_{i,k,n}\sum_{r=t-mn}^{t-m(n-1)-1}\left(F_{i,k,r}\right)\right\}}{\sum_{l\in Dem_i}\exp\left\{\hat{\Lambda}_{i,l} + \hat{\rho}_{i,l}\left(P_{Ri,l,t}\right) + \sum_{p=1}^{n_p}\hat{\sigma}_{p,i,l}\left(M_{p,i,l,t}\right) + \sum_{n=1}^{\tau}\hat{\chi}_{i,k,n}\sum_{r=t-mn}^{t-m(n-1)-1}\left(F_{i,l,r}\right)\right\}}$$

~~wherein,~~ where,

k = the product

i = the primary demand group

t = the time period

n = the number of time periods away from the time period t

$F_{i,k,t}$ = the fraction of the demand group i equivalent sales comprised by the product k in the time period t

$P_{Bi,k,t}$ = an equivalent base price of the product k in the demand group i in the time period t

$\overline{P}_{Bi,(k),t}$ = an average equivalent base price of all products other than the product k in the demand group i for the time period t

$P_{RBi,k,t}$ = a relative equivalent base price of the product k in the demand group i for the time period t

$\overline{P}_{RBi,\bullet,t}$ = an average relative equivalent base price in the demand group i for the time period t

$M_{p,i,k,t}$ = a level of promotion type p for the product k in the demand group i in the time period t

$\rho_{i,k}$ = a relative base price elasticity factor for the product k in the demand group i

$\sigma_{p,i,k}$ = a promotion factor p for the product k in the demand group i

$\chi_{i,k,n}$ = a time lag factor for the product k in the demand group i and the delay of n

$\Lambda_{i,k}$ = a constant associated with the product k in the demand group i